

REMARKS

The applicant notes with appreciation the acknowledgement of the claim for priority under section 119 and the notice that all of the certified copies of the priority documents have been received.

The applicant acknowledges and appreciates receiving an initialed copy of the form PTO-1449 in connection with the Information Disclosure Statement filed on 04/01/2004.

Claims 1-8 are pending. The applicant respectfully requests reconsideration and allowance of this application in view of the above amendments and the following remarks.

Claims 1-5 stand rejected under 35 USC 102(b) as being anticipated by Wensel, U.S. Patent No. 6,001,672. The applicant respectfully requests that the rejection be withdrawn for the following reasons.

Applicant notes that independent claims 1 and 4 are amended herein to recite the novel embodiment disclosed in Applicant's specification, for example, on page 14, lines 8 – 13. In the noted embodiment, the mold or forming die 300 is described as including a gate 380 disposed directly above the semiconductor chip 10. As illustrated in Fig. 2A, the resin is injected through the gate 380 towards the surface of the semiconductor chip 10. The noted arrangement of the gate disposed directly above the semiconductor chip and resin injection limits the occurrence of short circuits of, for example, adjacent wires 40 or resin burs as discussed in Applicant's specification, for example, on pages 16 – 17.

In stark contrast, Wensel describes a method for resin sealing a semiconductor device including, for example as shown in Fig. 9 of Wensel, that the semiconductor device 214 is placed

in a mold 234 and an encapsulant compound material 224 is received within the mold through a gate. Wensel however notably fails to disclose that that the gate is disposed directly above the semiconductor device 214 so that the material 224 is injected through the gate towards the surface of the semiconductor device 214 as recited, for example, in amended claim 1. Rather, Wensel shows a configuration in which the gate is disposed to the right of the semiconductor device 214. Such a configuration leads to the same problem discussed in Applicant's specification with respect to the related art in the present invention, e.g. in accordance with the configuration described in Wensel, an undesirable short circuit may easily occur among the wires.

Applicant emphatically notes that disposing the injection gate as recited in amended claims 1 and 4, e.g. directly above the semiconductor device, is not a mere design choice since improved results are obtained by achieving a balance between limiting short circuits and limiting resin voids associated with such an arrangement as described in application as noted above satisfying needs evidenced in the art as described for example in the Background section of Applicant's specification.

Therefore, it is submitted that a *prima facie* case of anticipation cannot be sustained since Wensel fails to disclose all the claimed features of independent claims 1 and 4 as amended, e.g. that that the gate is disposed directly above the semiconductor device 214 so that the material 224 is injected through the gate towards the surface of the semiconductor device 214.

Accordingly, it is respectfully requested that the rejection of claims 1 and 4 be reconsidered and withdrawn. Claims 2, 3, and 5, by virtue of depending from claims 1 and 4 are allowable for at least the reasons set forth hereinabove with regard to claims 1 and 4. It is respectfully requested that the rejection of claims 2, 3, and 5 be reconsidered and withdrawn.

Claims 6 - 8 stand rejected under 35 USC 103(a) as being allegedly unpatentable over Wensel in view of Lemaire et al., U.S. Patent No. 5,417,905 (hereinafter "Lemaire.") Applicant respectfully requests that the rejection be withdrawn for the following reasons.

Applicant notes that independent claim 6 has been amended to recite the novel embodiment disclosed, for example, on pg. 12, lines 24 – 27 in which the resin-sealed semiconductor device 200 includes an injection mark 62 of the resin 60 disposed directly above the surface of the semiconductor chip 10.

The Examiner admits that the applied art combination, and Wensel in particular, fails to teach or suggest an injection mark 62 as claimed. However, Lemaire is cited in order to cure this deficiency in the teaching of the applied art combination. Lemaire, at best, describes a method for forming a plastic credit card in which a mark 770 results from the injection of plastic.

Applicants further question the motivation to combine Lemaire and Wensel since Lemaire would not teach solutions to concerns raised by Wensel or by the Applicant in addressing short circuits and the like, clearly not present in credit card manufacturing. Applicants submit that no evidence has been provided to show that one of ordinary skill in the art of encapsulating semiconductor dies would have been motivated to look to the teachings of Lemair for a solution to any problem much less a solution to problems relating to short circuits and the like.

Notwithstanding Applicant's contention that the applied art combination is improperly motivated, Applicant notes that Lemaire and thus the applied art combination still fails to teach or suggest forming an injection mark directly above the surface of a semiconductor chip as claimed.

Accordingly a *prima facie* case of obviousness has not been established in that the applied art combination is improperly motivated and still fails to teach or suggest all the claimed

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features as required. It is therefore respectfully requested that the rejection of independent claim 6 be reconsidered and withdrawn. Claim 7 and 8 by virtue of depending from claim 6 is allowable for at least the reasons set forth herein above with regard to claim 6. It is respectfully requested that the rejection of claim 7 and 8 be reconsidered and withdrawn.

In view of the foregoing, the applicants respectfully submit that this application is in condition for allowance. A timely notice to that effect is respectfully requested. If questions relating to patentability remain, the Examiner is invited to contact the undersigned by telephone.

Please charge any unforeseen fees that may be due to Deposit Account No. 50-1147.

Respectfully submitted,



Robert L. Scott, II
Reg. No. 43,102

Posz & Bethards, PLC
11250 Roger Bacon Drive, Suite 10
Reston, VA 20190
Phone 703-707-9110
Fax 703-707-9112
Customer No. 23400